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EXAMINER
COLIN, CARL G

ART UNIT	PAPER NUMBER
2136	

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/484,691	EBRAHIMI ET AL.
	Examiner	Art Unit	
	Carl Colin	2136	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>10 March 2005</u> .

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-31</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-31</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>01/18/2000</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)		4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)		5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .		6) ☐ Other:

DETAILED ACTION

Response to Arguments

1.   In response to communications filed on 3/10/2005, for request to continue examination,

applicant amends claims 1, 14, 23, and 27. The following claims 1-31 are presented for

examination.

2.   Applicant's arguments, see page 9, filed on 3/10/2005, with respect to the rejection of

claims 1-31, under 35 USC 103 (a) have been fully considered and they are persuasive as

amended. Applicant has amended the independent claims 1, 14, 23, and 27 to further limit the

claimed invention. However, upon further consideration, a new ground of rejection is made.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or

described as set forth in section 102 of this title, if the differences between the subject matter

sought to be patented and the prior art are such that the subject matter as a whole would have

been obvious at the time the invention was made to a person having ordinary skill in the art to

which said subject matter pertains. Patentability shall not be negatived by the manner in which

the invention was made.

3.1   **Claims 1-3, 7-8, 9-17, and 20-28** are rejected under 35 U.S.C. 103(a) as being

unpatentable over US Patent 6,401,125 to **Makarios et al** in view of US Patent 6,401,125 to

Green et al.

3.2   **As per claims 1, 14-17, Makarios et al** substantially teaches a method for brokering

state information exchanged between computers using at least one protocol above a transport

layer, the method comprising the steps of receiving at a proxy a request from a client requesting

a resource of an origin server wherein the transparent proxy is unknown to the client (column 4,

lines 53-56) the proxy disclosed meets the recitation of transparent proxy as the proxy is

unknown to the client as the client sends the URL directly to a server. **Makarios et al** discloses

redirecting the client request from the proxy to a signup web page with an address that meets the

recitation of policy module with identifier of claim 14 (column 4, lines 51-53 and column 5, lines

10-15); obtaining enforcement data provided by the policy module (column 5, lines 15-27 and

column 3, lines 1-10); a proxy cookie is generated in response to login information of the user

and transmitting to the user to use as an authentication for further interactions with the proxy that

meets the recitation of generating at the proxy a policy state token in response to the policy

enforcement data (column 5, lines 19-51); and transmitting the policy state token from the proxy

to the client wherein the policy state token is used as an authentication of the client to the

transparent proxy for subsequent interactions between the client and the transparent proxy.

Although **Makarios et al** discloses the claimed method steps of claim 1, **Makarios et al** does

not provide enough details on the architecture implemented in the invention. **Green et al** in an

analogous art teaches a memory configured at least in part by a transparent proxy process, a

processor for running the transparent proxy process, (see figure 1) at least one link for networked

communication between the transparent proxy process, on the one hand, and a client computer

and an origin server, on the other hand, for example (see figures 2 and 3); **Green et al** further

teaches a secure transparent proxy that is transparent to both a client and a server (column 9,

lines 5-12) and transmitting packets in accordance with a defined security policy (column 5, lines

25-30) having a security module to verify whether to grant or deny access to proxy services

(column 7, line 48 through column 8, line 25 and column 9, line 12-55). Therefore, it would

have been obvious to one of ordinary skilled in the art at the time the invention was made to

combine the invention of **Makarios et al** with the inventive concept of **Green et al** to provide

more security and more versatility. One skilled in the art would have been motivated to

combine both references because the proxy disclosed by **Green et al** provides more security and

more versatility and it is associated with policy module that allows the proxy to use any defined

protocols in accordance to defined security policy and provides transparency wherein no devices

need to change any configuration information (column 9, lines 11-60).

     As per claims 2-3, Makarios et al discloses the limitation of receiving at the proxy a

renewed request for the origin server resource, the renewed request containing the policy state

token, wherein the renewed request contains the policy state token in a cookie in a header sent

from the client to the proxy, for example (column 5, lines 25-32).

As per claims 7-8, **Makarios et al** teaches the limitation of wherein HTTP or HTTPS is

a protocol used during at least one of the receiving and transmitting steps (column 3, lines 30-

67).

As per claim 10, the combination of **Makarios et al** and **Green et al** teaches directory

access protocol for authentication of client that meets the recitation of utilizing LDAP as a

software to provide authentication information about the client and the transparent policy

enforcement data obtained by the transparent proxy depends on the authentication thus provided

(**Green et al,** column 9, lines 12-47). Therefore, claim 10 is rejected on the same rationale as the

rejection of claim 1.

Claims 9 and 11 are similar to the rejected **claim 10** except for utilizing Novell

Directory Services and SSL software respectively instead of LDAP. **Green et al** discloses other

directory service protocols and any protocols used in X400's X500's. Therefore using NDS or

SSL would have been obvious to one skilled in the art, as these protocols are well known.

Therefore, claims 9 and 11 are rejected on the same rationale as the rejection of claim 1.

As per claim 12, **Makarios et al.** teaches the limitation of wherein the obtaining step

extracts policy enforcement data from a redirection address field (see column 3, lines 1-10).

As per claim 13, Makarios et al. teaches the limitation of wherein the transmitting step transmits the policy state token in a cookie in a header sent from the proxy to the client (column 10-32).

As per claims 20-22, claim 20 adds another proxy with similar limitations as the rejected claim 14. To one with ordinary skilled in the art, the network can comprise of any number of clients and servers and adding more than one proxy to share some of the functions would have been a design choice and obvious to one skilled in the art because assigning proxies to handle specific functions or protocols is well known in the art.

Claims 23 and 28 recite some of the limitations found in claim 1 except for implementing the claimed method in a computer system and for using a first signal including a redirection command which specifies the policy module address as a redirection target (see Makarios et al, column 5, lines 10-25); and a second signal including a redirection command which specifies the transparent proxy server address as a redirection target (Makarios et al, column 5, lines 30-32). Makarios et al discloses a signup web page with an address that meets the recitation of policy module address. Claims 23 and 28 are rejected on the same rationale as the rejection of claim 1.

As per claim 24, Makarios et al teaches the limitation of wherein the first signal includes an identity broker address as the policy module address (see column 5, lines 10-25).

As per claim 25, Makarios et al teaches the limitation of wherein the first signal includes a login server address as the policy module address (see column 5, lines 10-25).

As per claim 26, Makarios et al teaches the limitation of wherein the second signal includes the policy enforcement data embedded in an address field with the transparent proxy server address (see column 5, lines 10-25).

Claims 27 is similar to the rejected claim 1, except for incorporating the claimed method of claim 1 into a computer medium. Therefore, claim 27 is rejected on the same rationale as the rejection of claim 1.

4.   Claims 4, 6, 18, 19, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,401,125 to **Makarios et al** in view of US Patent 6,401,125 to **Green et al** as applied to claims 1-3 above and further in view of US Patent Publication US 2002/0007317 to **Callaghan et al**.

As per claim 4, Makarios et al discloses stripping in the proxy cookie to customize the client's information request as appropriate to the server (column 3, lines 1-10). **Callaghan et al.** in an analogous art teaches the step of forwarding to the origin server a portion of the renewed request, the forwarded portion omitting the policy state token (see page 6, paragraphs 88-90). **Callaghan et al.** further teaches in other embodiments the step of stripping off the state token (see page 4, paragraph 61 and page 5, paragraph 81). Therefore, it would have been obvious to

one of ordinary skilled in the art at the time the invention was made to modify the method as

combined above to omit the policy state token when forwarding the request to server. One

skilled in the art would have been motivated to do so because by omitting the policy state token

the proxy can maintain the proxy cookie information secret to the server. The other advantage of

adding and omitting state information as disclosed by **Callaghan et al** is that it enables a proxy

to customize request and response as it fits to the proxy (page 4, paragraphs 61-62).

        As per claim 6, Callaghan et al. teaches further comprising the steps at the proxy of

forwarding to the client at least a portion of a communication from the origin server, and

forwarding to the origin server at least a portion of a communication from the client (page 5,

paragraphs 81-82). Therefore claim 6 is rejected on the same rationale as the rejection of claim

4.

        Claim 18 recites some of the limitations of claims 1 and 4 as discussed above. For

instance, **Green et al** discloses transparent proxy service that is transparent to both client and

server, the combined references above also teach the step of accepting the authorization from the

client with a renewed client request for the origin server resource; forwarding the renewed client

request to the origin server without forwarding the authorization but with an indication to the

origin server that the transparent proxy server is the source of the forwarded request, and then

transparently forwarding the requested resource from the origin server to the client as mentioned

in claims 1 and 4. Therefore claim 18 is rejected on the same rationale as the rejection of claims

1 and 4.

As per claim 19, Makarios et al teaches the limitation of wherein the transparent proxy server sends the client the authorization by sending the client a proxy cookie for use in subsequent communications from the client, for example (see column 5, lines 19-51).

Claims 29 and 30 recite some of the limitations found in claim 18, therefore they are rejected on the same rationale as the rejection of claim 18.

5.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,401,125 to Makarios et al in view of US Patent 6,401,125 to Green et al, in view of US Patent Publication US 2002/0007317 to Callaghan et al as applied to claim 4 above and further in view of US Patent 5,805,803 to Birrell et al..

As per claim 5, Makarios et al discloses an example of reply containing an origin state token for use by the proxy in its subsequent communications with a (column 5, lines 55-65). It is obvious to one skilled to the art that the same concept can be applied in the server side (see figure 2) as the proxy is capable of saving the cookie for future interactions with the server. Green et al discloses transparency with both the server and the client and discloses interaction between the proxy and the server (column 11, lines 5-17). Birrell et al. in an analogous art discloses receiving at the proxy a reply from the origin server, the reply containing an origin state token for use by the proxy in its subsequent communications with the origin server, for example (see column 4, lines 51-65). Therefore, it would have been obvious to one of ordinary

skilled in the art at the time the invention was made to modify the method as combined above to include the step of receiving at the proxy a reply from the origin server, the reply containing an origin state token for use by the proxy in its subsequent communications with the origin server. One skilled in the art would have been motivated to do so because using the origin state token for use by the proxy in its subsequent communications with the origin server will allow the proxy to save in time and bandwidth if the server is already known to the server rather than authenticating at every session (column 4, lines 51-65 and 13-26).

6.   **Claim 31** is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,401,125 to **Makarios et al** in view of US Patent 6,401,125 to **Green et al** as applied to claim 27 above and further in view of US Patent Publication US Patent 6,728,884 to **Lim**.

As per claim 31, both references substantially teach the step of generating at the proxy a policy state token in response to the policy enforcement data (**Makarios et al**, column 5, lines 19-51); transmitting the policy state token from the proxy to the client (**Makarios et al**, column 5, lines 19-51); receiving the proxy cookie from the client with a renewed client request for the origin server resource (**Makarios et al**, column 5, lines 19-51), and redirecting client request from a transparent proxy to a policy module and accepting the policy enforcement data (**Makarios et al**, column 5, lines 19-51). Neither of the references explicitly teach redirecting a request from a <u>second</u> transparent proxy to be to, and accepting the policy enforcement data at the second transparent proxy. To a person skilled in the art it is apparent that the proxy disclosed by the combined references above can be implemented in more than one computer to obtain a

second transparent proxy that will perform the same function. Load balancing is well known in

the art; and in load balancing, another transparent proxy or gateway can perform a specific

function when the first one is not available. **Lim** in an analogous art teaches a plurality of proxy

servers associated with several security modules to control and provide access to resources

(column 3, lines 40-57). **Lim** discloses proxy configuration data that specifies the configuration

of each proxy servers; the proxy configuration data specifies whether a particular proxy security

server provides authorization services (column 6, line 65 through column 7, line 5) and discloses

request can be received by a specific proxy server since the request may include data that

indicates which proxy servers to use and further discloses proxy server requests security module

(column 5, lines 60-67 and column 6, lines 15-20); a returned cookie is required for access to

resources (column 6, lines 34-35) and further discloses that not all the proxies may provide the

same set of services a service may be available for a specific service while another server

provides that particular service (column 8, lines 59-67) that meets the recitation of accepting at

the second transparent proxy the second policy enforcement data provided by the policy module,

the second policy enforcement data including authorization from the policy module for the client

to access the resource through the second transparent proxy. Therefore, it would have been

obvious to one of ordinary skilled in the art at the time the invention was made to modify the

method as combined above to include a second transparent proxy where a request can be

received after the first proxy becomes unavailable and accepting at a second proxy policy

enforcement data from policy module for authorization to access resources as suggested by **Lim**.

One skilled in the art would have been motivated to utilize more than one proxy because it

provides the advantage of governing access to more information resources and selective proxies

can be assigned to specific security policies and if there is a need for reconfiguration other

proxies will be available (see column 2, lines 27-36) as suggested by **Lim**.

Conclusion

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Carl Colin whose telephone number is 571-272-3862. The

examiner can normally be reached on Monday through Thursday, 8:00-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ayaz Sheikh can be reached on 571-272-3795. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

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system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private

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Carl Colin
Patent Examiner
May 13, 2005

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